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THE
Journal of the Society of Arts,
 AND OF
THE INSTITUTIONS IN UNION.

No. 574.]

FRIDAY, NOVEMBER 20, 1863.

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NOTICE TO MEMBERS.

ONE HUNDRED AND TENTH SESSION, 1863-4.

The following are the dates of the meetings for the present Session. The chair is taken at Eight o'clock:—

1863. November	—	—	18	25
„ December	2	9	16	—
1864. January	—	—	20	27
„ February.....	3	10	17	24
„ March.....	2	9	16	—
„ April	6	13	20	27
„ May.....	4	11	18	25
„ June	—	—	—	29*

For the Meetings previous to Christmas the following arrangements have been made:—

NOVEMBER 25.—“The Australian Colonies, their Condition, Resources, and Prospects.” By Sir CHARLES NICHOLSON, Bart. On this evening SAMUEL GREGSON, Esq., M.P., will preside.

DECEMBER 2.—“On Magneto-Electricity, and its Application to Lighthouse Purposes.” By F. H. HOLMES, Esq.

DECEMBER 9.—“Agricultural Progress: its Helps and its Hindrances.” By J. CHALMERS MORTON, Esq. On this evening JOHN GREY, Esq., of Dilston, will preside.

DECEMBER 16.—“On the Economic Value of Foods, having special reference to the Dietary of the Labouring Classes.” By Dr. EDWARD SMITH, F.R.S.

The Council have made arrangements for the delivery of Courses of Lectures (under the title of “the Cantor Lectures”) on the following subjects during the ensuing Session:—

Fine Arts Applied to Industry. By W. BURGESS, Esq.
 Chemistry Applied to the Arts. By Dr. F. CRACE CALVERT, F.R.S.
 International Commerce. By G. W. HASTINGS, Esq., Barrister-at-Law.

These Lectures will be open to Members and their Friends on the same conditions as the Ordinary Meetings. The course by Mr. G. W.

* The Annual General Meeting: the Chair will be taken Four o'clock. No Visitors are admitted to this Meeting.

Hastings will be “On the Operations of International Commerce on the Existing Laws of Maritime Warfare,” and will consist of four lectures, two of which, “On the Law of Blockade,” will be delivered on Monday evenings, the 7th and 14th December, at 8 o'clock. The other two lectures will be delivered after Christmas; the dates will be duly announced.

The Michaelmas subscriptions are now due, and should be forwarded by cheque or post-office order, made payable to the Financial Officer, Samuel Thomas Davenport. All cheques and post-office orders should be crossed through Messrs. Coutts and Co.

COUNCIL.

The following Institution has been received into Union since the last announcement:—

Stepney Deanery Board of Education.

FIRST ORDINARY MEETING.

WEDNESDAY, NOVEMBER 18, 1863.

The First Ordinary Meeting of the One-Hundred-and-Tenth Session was held on Wednesday, the 18th inst. William Hawes, Esq., Chairman of the Council, in the chair.

The following candidates were proposed for election as members of the Society:—

Adams, Benjamin	Bank of England, E.C.
Aitchison, David	180, Piccadilly, W.
Bachhoffner, Dr. George	204, Marylebone-road, N.W.
Henry, F.C.S.	3, Compton-ter., Islington, N
Bagshaw, William E. ...	8A, Lucknow-terrace, Bays-
Baker, George	water, W.
Ball, Walter F.	3, St. John's-pk-villas, N.W.
Bankart, James	10, Trinity-square, S.E.
Bass, Michael Thos., M.P.	19, Lower Belgrave-st., S.W.;
	and Rangemore, Burton-on-
	Trent.
Berrall, William	39, Bedford-square, W.C.

Bewick, Thomas John ...	Allenheads, Northumberland.	Hunter, Christopher	34, Penton-st., Pentonville, N.
Blackbourn, John	6, Trinity-terrace, Trinity-square, Brixton, S.	Kayess, William Henry {	23, Milk-street, E.C.; and
Blockley, John	2, Park-road, Haverstock-hill, N.W.	Tucker	Forest-hill, S.E.
Blyth, Alfred	38, Westbourne-terrace, W.	Kindersley, Septimus Wi-	38, Chapel-street, Belgrave-square, S.W.
Boehm, J. Erasmus	28, Brompton-crescent, S.W.	Lorberg, William, Ph. D. {	4, Wyld's-rents, Bermondsey, S.E.
Bond, Francis T., M.D.	Hartley Institution, Southampton.	Maclean, William	Grove-hill, Camberwell, S.
Bowkett, Thomas E.	2, Folkestone-terrace, Poplar, E.	Marsden, Joseph Daniel .	Edmonton, N.
Bowman, Robert	10, Church road West, Islington, N.	Martin, Charles	11, Langham place, W.
Boyd, Dr.	10, Norfolk-terrace, W.	Michael, Jacob	Southfield-lodge, Southfields, Wandsworth, S.W.
Bryson, John Miller	57, Roupell-street, Lambeth, S.	Middleton, James	2, Brook-street, Gloucester-place, W.
Buckland, Francis T., M.D. .	156, Albany street, N.W.	Oakley, William	High street, Bromley, E.
Burgh, Nicholas	78, Waterloo-road, S.	Potter, William	10, St. John's-wood-park, N.W.
Burnell, Edward H.	32, Bedford-row, W.C.	Punshon, Rev. Wm. {	8, Arundel square, Islington, N.
Burt, Major Thomas Seymour, F.R.S.	82, Wilton-place, Regent's-park, N.W.	Morley, M.A.	Witney, Oxfordshire
Busher, Edward D.	11, St. Leonard's - terrace, Chelsea College, S.W.	Purdue, Thomas	51, Rutland-gate, S.W.
Bussey, George G.	14, Eton-villas, Haverstock-hill, N.W.	Randell, Charles	115, Leadenhall-street, E.C.
Butler, Charles, F.R.G.S.	13, Sussex-square, Hyde-park, W.	Rucker, Martin Diederich {	39, Bessborough-gardens, Belgrave-road, S.W.
Butt, Isaac, Q.C., M.P.	8, Broad Sanctuary, Westminster, S.W.	Sabine, Robert	The Elms, Twickenham, S.W., and Knight Rider-street, Doctors' Commons, E.C.
Buttery, Charles	173, Piccadilly, W.	Shaw, James Veitch	Bennett's-hill, Birmingham.
Cardwell, Reginald	11, Cromwell-place, South Kensington, W.	Stubbs, John Heath	16, Queen Anne-street, Cavendish-square, W.
Chorley, Thomas Fearncombe	48A, Moorgate-street, E.C.	Smith, Edward, M.D., F.R.S.	Langrville, Boston, Lincolnshire
Clark, Edward Rawson ...	Drayton-villa, West Brompton, S.W.	Tatam, William	Ranelagh-rd., Pimlico, S.W.
Cleland, W.	24, Circus-road, St. John's-wood, N.W.	Taylor, Walter	27, Oxford-street, W.
Coe, Ernest Oswald	7A, Brook-street, Grosvenor-square, W.	Tupp, John	Bridge-street, Bath.
Cole, Edward S.	6, Thurloe-place, Brompton, S.W.	Tylee, John	Caithness, Pavement Quarries, and Mount Pleasant, Thurso, N.B.
Collinge, Arthur, C.E.	10, Marlborough-place, Kennington, S.	Watt, James	142, High Holborn, W.C.
Cooke, Christopher	13, Chatham-place, E.C.	Weir, Edward	70, Russell-square, W.C.
Cooke, Major Anthony, R.E.	95, Mount-street, Grosvenor-square, W.	White, George	100, Wardour-street, W.
Cope, William	26, Gloucester-crescent, Regent's-park, N.W.	Winter, James	Wolff, Sir Henry Drummond, K.C.M.G.
Corderoy, George	17, King William street, Strand, W.C.		The Albany, W.
Corderoy, John	3, Kennington-green, S.		
Cronmire, John Martin	10, Bromehead-street, Commercial-road-east, E.		
Currie, Edmund Hay ...	Bromley, Middlesex, E.		
Davis, Matthew Boulton ...	22, Buckingham-st., Strand, W.C.		
Dunn, Spencer	10, King-st., Finsbury, E.C.		
Emly, Samuel Frederick	12, Norfolk-st., Strand, W.C.		
Evans, John E.	6, Albion-road, Hampstead, N.W.		
Evans, John Hilditch ...	60, Bartholomew Close, E.C.		
Faulkner, John	2, Mornington-crescent, N.W.		
Field, Sidney	Northcote, Reigate.		
Fisher, Joseph	Great Western Railway Station, Paddington, W.		
Fletcher, Isaac	Tarnbank, Workington.		
Greig, Alexander M.	Ranelagh-road, Pimlico, S.W.		
Guye, Auguste	8, Guildford-street, Russell-square, W.C.		
Hammond, Edwin	23, Hamilton-street, Camden-ton, N.W.		
Harris, Wm. H., F.C.S.	33, Gold-st., Northampton.		
Hewitt, Jonas B.	5, Angel-court, E.C.		
Highton, T. Charles	32, Norfolk-st., Strand, W.C.		
Hill, Nicholas Stanton ...	Liverpool.		

The CHAIRMAN delivered the following ADDRESS.

Having been elected, through the kindness of my colleagues on the Council, to be their Chairman this year, it becomes my duty to deliver the Opening Address of the session. It is unfortunate for me that I should follow so able a Chairman as my friend Sir Thomas Phillips, who conferred such marked benefits on the Society during the four years he presided over its affairs, as well by the skill and courtesy with which he conducted our business, as by the energy and talent he brought to bear on every subject submitted for our consideration. To follow such a Chairman is a disadvantage to any one; and all I can hope is, that the efficiency of the Society will not suffer during my period of office, and that I shall deliver it over to my successor as popular and as prosperous as it now is.

Before entering upon the ordinary topics of the Address to be delivered this evening, allow me to congratulate the members on their meeting for the first time in what may almost be called a new room.

The Council believe that the alterations, which are so apparent that I need not specially refer to them, will be approved by the members, and that, whilst sitting in a more comfortable and better ventilated room, they will be pleased by the taste displayed by Mr. Crace in its decoration. The great difficulty experienced was the affording increased accommodation, and the Council found that the architectural construction of the house precluded them from making any very considerable addition to the size of the meeting-room, but they have been able, by re-arranging the seats, and making the ante-room available, to accommodate a greater number of members. In addition to the alterations in the meeting room, steps have been taken for a re-arrangement of the Society's library, which will be placed in the large room on the ground floor, where much additional convenience will be afforded to members desiring to consult the books and periodicals.

Having thus touched upon this subject, I cannot avoid saying a few words on the pictures which adorn the walls. Without having been what is technically called cleaned, they have been partially so, by the removal of much dust and dirt during the process of relining, which was found to be absolutely necessary for their preservation; and we are assured that by carefully removing that which has, by time, become more permanently fixed on the pictures, we shall be able to restore them, during the next vacation, almost to the state in which they were left by Barry in 1782. Even now the members can better appreciate than before the masterly freedom and boldness of the drawing, and the harmony of the colouring, both proving the thorough knowledge of his art which Barry had attained. Most of the members, I believe, are aware that these pictures were painted expressly for this room, and presented to the Society by Barry, the Society paying only the cost of the canvass, frames, and pigments used, which amounted to £315 2s. Upon their being finished, he asked permission of the Society to exhibit them to the public for his own benefit, which was assented to, the Society paying all the expenses attending the exhibition, which amounted to £224. The sum received from visitors does not appear to have been recorded. He died poor and discontented, his genius not being appreciated as he thought it should have been, in 1806, and was buried in St. Paul's, his body having been placed in this room the day previous to the funeral.

Following the course ordinarily adopted on these occasions, I will now call your attention to the losses the Society has sustained during the past year by the death of five members, distinguished for their position or services, and all of whom had been for years in constant

intercourse and on terms of friendship with a large number of our members.

Our late President, Mr. William Tooke, F.R.S., one of our oldest members, died but a short time since, having filled every office of the Society. At one period, when great difficulties arose, and the continued existence of the Society depended on the personal exertions of one or two members, he stood forward, and by his energy and pecuniary contributions, succeeded in infusing new life into its operations. He was our honorary solicitor for a long period, and during the last few years of his life, when no longer able to attend our meetings, continued to take a lively interest in all our proceedings.

Mr. William Cubitt, M.P. for Andover, was born in 1791, and after leaving school, entered the navy, but soon withdrew from the service to join his father as builder and contractor. He was most successful in business. He served the office of Sheriff of London, in 1847, and was twice elected Lord Mayor.

Mr. Joshua Field, F.R.S., born in 1786, was educated at a boarding school at Harlow, in Essex, where, at an early age, he displayed great mechanical talent. He left school in 1802, at 16 years of age, and obtained a situation under Sir Samuel Bentham, in the machinery department of the dockyard at Portsmouth. Sir Samuel soon removed him to London, and employed him in the drawing department of the Admiralty, which he left, upon the recommendation of Sir Samuel, for employment under Mr. Maudslay, who was then constructing the block machinery for Sir Isambard Brunel. This introduction, in 1804, led to a partnership, and to a friendship which lasted uninterruptedly to Mr. Maudslay's death. Mr. Field took much interest in the *Great Western* steam-ship, designed by Mr. Brunel, which was the pioneer of the now almost daily steamboat communication with America; and the machinery the firm supplied to that ship was, at the time, the most perfect specimen of marine engineering then completed. Mr. Field took a prominent part in everything calculated to improve the profession of which he was so distinguished a member. He was one of the founders of the Institution of Civil Engineers, and filled the office of President in 1848-9. He was elected a Fellow of the Royal Society in 1832.

Mr. Joseph Glynn, F.R.S., also an engineer, though less known in London, was a valuable member of the Society, and for many years member of Council and Vice-President. His attention was principally directed to hydraulic engineering, and his works are better known in Lincolnshire and the Fen districts than here. He combined great caution with considerable constructive ability, and was successful in the pursuit of his profession.

In Mr. Mulready, R.A., the Society, and his brother artists, have lost a friend and an example. He was born at Ennis, in Ireland, in 1786, and brought to London by his parents in 1792. At a very early age he began to show a taste for drawing, and when nine years old drew with spirit. He also evinced great love of reading, and was soon noticed by the keeper of a book-stall in Covent-garden, who first lent him books, and then, observing his talent for drawing, employed him to colour prints. He used to amuse himself, at this early period of his life, by chalk writing on walls, which he did with spirit and freedom. His first step as an artist was his introduction to Banks, the sculptor, who set him to copy busts, and thus put him in a fair way of acquiring a sound knowledge of the best examples of art. Whilst with Banks he entered himself as a student at the Royal Academy, but failed to gain admittance on his first trial. In 1801, however, he succeeded, and, still working under Banks, made rapid advances, receiving from our Society the silver palette, in 1802-3, when 17 years of age. From this time he supported himself by illustrating books, in which he was eminently successful, and by scene painting. This was in 1804, when his career as a truly English painter may be said to have commenced. With the careful drawing and finish of the Dutch school, he combined a richer tone, greater freedom of treatment and execution, and more poetry and imagination. His progress was steady and uniform, proving, as years passed on, the great value and importance of that constant attendance at the life school, which he continued to the end of his life, and which, if the highest degree of excellence in Art is to be attained, is indispensable. His keen observation, his appreciation of humour, and his exquisite, we might almost say unrivalled, drawing, are visible in all his works. He was a most laborious painter—no work was turned out of hand to meet the demand of the moment—everything was not only finished, but exquisitely finished, and all those who recollect the beautiful collection of his pictures which was exhibited in this room in 1848, will not fail to acknowledge that Mulready, in his peculiar style, held the foremost place among the artists of England. His kindness of character, his unassuming manners, and his ardent love of art, made him the friend of his patrons and brother artists, whilst his willingness to advise and assist the students at the Academy endeared him to the younger members of the profession.

Having thus paid our tribute of respect to the most distinguished of our members whom we have lost since our last Annual Meeting, I will proceed, in accordance with our Bye-laws, to indicate the policy which the Council propose to follow during the coming session.

It appears to me that in a Society like ours,

the proceedings of one year, except on very special occasions, are so dependent upon those of previous years, that to fulfil the obligation imposed by the Bye-laws it is necessary to trace what has for some time past been the policy of the Society, and then to show by what means that policy, approved as it has been by successive annual meetings, is to be continued, extended, and invigorated, by the proposed arrangements for the coming year.

Looking back then for some years, we find two subjects have engrossed much of the time of your Council, and have demanded the appropriation of a large portion of your funds.

The first relates to the Exhibitions of 1851 and 1862, which, having been so frequently and so fully dwelt upon on many previous occasions, I need only mention with a view to making one observation in addition to what has been already stated, viz., that the Council will continue to collect and to record every fact which comes under their notice likely to guide their proceedings at some future time, when, no doubt, a third International Exhibition will require the exercise of that energy and spontaneous action by the Society which have so much contributed to the success of those which have passed away.

The second refers to its action in the cause of education, and especially to the education of those connected with the manufacturing industry of the country.

It is very important at this time, when principles of education, which I believe we may with truth assert, originated in discussions held in this room, are so generally approved and adopted, that the members of the Society should appreciate the exertions which it has made in this great cause, and that it should be known to whose perseverance, industry, and talent the public are mainly indebted for the success which has been achieved.

I will, therefore, although this subject has been well nigh exhausted by my predecessors, trouble you with a few observations, to show how consistently, and through a long period of years, we laboured to introduce, and have at length, we believe, firmly established, an efficacious system for testing the self-education of the artist, the mechanic, and, lastly, we hope, of the artist-workman.

You are no doubt aware that the first Exhibition of Pictures by British artists took place in the Society's house in 1760, and that from the assistance the Society afforded to artists at that time sprung the annual exhibitions by the Royal Academy, which commenced in 1768.

I have before me three letters from Frank Hayman, Chairman of the Committee of English Artists, and subsequently a Royal Academician, to the then secretary of the Society, which I will read :—

February 26th, 1760.

SIR,—The artists of this city, having resolved to raise a sum for purposes of charity by the annual exhibition of their works, entreat the Society to allow them the use of their room from the 21st of April to the 3rd of May. This favour they consider as very important. The public concurrence of the Society will give to a new practice that countenance which novelty must always need, and the Arts will gain a dignity from the protection of those whom the world has already learned to respect.

I am, sir, your most humble servant,

F. HAYMAN,

Chairman of the Committee.

To the Secretary of the Society for the
Encouragement of Arts, &c.

St. Martin's-lane, 13th May, 1760.

SIR,—You are requested by the artists whose works appeared in the late exhibition, to return their sincerest thanks to the Society for the use of their room and the honour of their patronage.

Whatever improvement the arts of elegance shall receive from the honest emulation which public notice may excite, will be justly ascribed to those by whose example the publick has been influenced.

I am, sir, your very humble servant,

F. HAYMAN,

Chairman of the Committee.

To Dr. Templeman, Secretary to the
Society for Promoting Arts, &c.

St. Martin's-lane, 9th December, 1760.

SIR,—The favour conferred last year on the Artists by the Society has encouraged them to solicit the use of their room for a second Exhibition.

This request may be now granted with less inconvenience to the Society, as the Exhibition will be deferred to the beginning of June, a month in which the meetings of the Society are more rare than in the winter, the artists being desirous that the pictures drawn for the prize should be removed, lest any man should a second time suffer the disgrace of having lost that which he never sought.

The Exhibition of last year was crowded and incommoded by the intrusion of great numbers, whose stations and education made them no proper judges of statuary or painting, and who were made idle and tumultuous by the opportunity of a shew. It is now, therefore, intended that the catalogues shall be sold for a shilling each, and none allowed to enter without a catalogue, which may serve as a ticket of admission.

These regulations, which have been very deliberately formed, will be doubtless thought expedient and useful, and the artists flatter themselves that the improvement of national taste which will be promoted by comparing the works of the different performers is not unworthy the care of the Society.

I am, sir, your most humble servant,

F. HAYMAN,

Chairman of the Committee.

To Dr. Templeman, Secretary to the
Society for the Encouragement of Arts, Manufactures, &c.

In the Society's house, also, was held the first exhibition of new Inventions, about a century ago, and the models exhibited were illustrated by lectures and by *viva voce* explanations.

Here, from 1780 to the present time, prizes have been given for proficiency in various branches of art and science.

Here arose the germ of International Exhibitions; and it is not too much to say that the discussions in this room and at our Council Board, relating to International as contrasted with National Exhibitions, and in which one of our oldest members of Council, Mr. Winkworth,

took a distinguished part, very much aided in preparing the public mind to receive and to appreciate the bold but enlightened scheme for an International Exhibition, which was so admirably matured and so ably advocated by our late lamented President in 1849-50.

Since 1851, the attention of the Society has been specially directed to the encouragement of the industrial education of a very large class of persons for whom no adequate provision had previously been made, and it was only by the continuous exertions and untiring perseverance of Mr. Chester and other members of our Council, that the difficulties surrounding the plan they proposed were overcome.

In 1853, when a Committee was first appointed to inquire into the state of Industrial Education, there were but three great channels of instruction—our universities, our middle-class boarding schools, and our national and British schools. There were no means by which the very large number of youths and young men who left school at 13 or 14 years of age, and became at once engaged in business, could test the knowledge they subsequently acquired by private study, or through which they could obtain such a public acknowledgment of their industry and their acquirements, as would be practically useful to them in the race for employment and advancement in after-life. Every one who hears me—having his own experience to refer to—knows the great difficulty the young men to whom I have referred must always have had in obtaining knowledge—really sound and useful knowledge—either in the hour or two in the morning before going to business, or in the evening after business. Every one knows the temptations to be resisted, the pleasures to be sacrificed, and often the ridicule to be borne, to obtain the still greater, though not so immediate pleasure, of acquiring knowledge; and yet, until this Society led the way, supported in its difficult course by the aid and counsel of the Prince Consort, no Society or Institution existed which offered to young men from 16 years of age and upwards, a wholesome stimulus to study, or gave them the means by which their industry, their perseverance, their self-culture, could be tested and acknowledged, and brought prominently before their friends and the public.

That this or some similar system for encouraging private study after leaving school had become absolutely necessary, from the universality of education, was never so apparent as now, when the attractions of sensation novels, worthless as vehicles for conveying wholesome instruction, if not absolutely injurious, by unduly exciting feelings and sentiments calculated to lower rather than to elevate the tastes and principles of their readers, and when the temptation

to devote too much time in reading the interesting and varied information contained in the daily press is considered, information conveyed in so condensed and popular a form as almost to preclude reflection, and to lead involuntarily to the adoption of the views of others rather than to the formation of individual opinions, and the tendency of which is to discourage sound and systematic study—I say that with such inducements to desultory reading, any education entered upon voluntarily, to be followed by an examination, must raise the tone of mind, elevate the thoughts, give precision to their expression, whether in writing or verbally, and induce a correctness of reasoning and of analysis, which will produce most beneficial effects in after-life.

The efforts of the Society to obtain the sanction and co-operation of the public to this novel and voluntary system of education and examination, differing so entirely from anything previously attempted, were slow, but they were sure.

Three years were spent in maturing the plan, and it was not till February, 1856, that the first regular programme was issued, nor until June of the same year that the first examination was held. There were then only fifty-two candidates. Last year there were very nearly a thousand.

Such was the effect produced by these Examinations, that strength was given to a suggestion of one of our examiners, that the Universities should do for the class immediately above those for whom our Examinations were intended—that which we were so successfully doing in our special sphere—and the result was the establishment of the middle-class Examinations of Oxford and Cambridge, success in which bids fair to be the test by which the value of the education obtained in the private schools of the country will hereafter be measured.

Many of the objections to competitive examinations among the higher classes of students, whether at the University or at the middle-class examinations, or at the examinations for civil or military appointments, do not apply to ours.

Cramming, which is now a profession, cannot be adopted by the candidates who appear before our examiners. In the first place, they cannot afford to pay for such a system, and if they could they are so spread over the country that it would be almost impossible, except in a few large towns, to obtain the necessary help; and I believe that the honours gained by our candidates must, as a whole, be more honestly won than those by any other class. The examinations are not entered upon to gain a particular position in college, or a particular office or promotion in military or naval life, by young men most of whom have more or less money at their disposal, but by those who hope to gain the notice of their employers by great sacrifices and severe labour after their day's business is over. Such men would mostly scorn

cramming. They are seeking for a test of their voluntarily acquired knowledge, not simply for a pass to some place or for promotion. The effect is therefore greater; the merit is also greater; and, class for class, in the course of time the results will be greater.

I hope, then, without wishing to disparage the exertions of any other body, I have not unfairly endeavoured to maintain the claims of this Society to the honour of leading the movement for the voluntary examination of students anxious to secure some public acknowledgment of their industry and talent.

Turning now to another view of the subject, when we consider the influence that the upper stratum of the working classes exerts over the entire body, and that the working classes form the base of our industrial fabric, too high a value can scarcely be attached to every step which encourages them to attain by their independent exertions, and from books of their own selection, an acquaintance with sound principles of political economy, which will influence their own conduct and enable them to influence that of others.

Differences between masters and workmen, originating mostly in ignorance and misunderstanding, will doubtless be lessened by a certain number of young men voluntarily submitting, year after year, to a difficult examination to test the extent of their self-education, and thereby becoming able to appreciate, to understand, and to explain to their fellow workmen, the great social and economical principles on which their success depends. The accomplishment of these great objects has been for many years past the aim of our educational proceedings, and we are now endeavouring to extend their efficiency by offering prizes to artist-workmen who obtain great proficiency in their respective industries, and by the consideration of a suggestion brought under our notice by a most active and valuable member of Council, Mr. Twining, for adding to our list of subjects examinations in the technical knowledge of the various industrial operations in which intelligent workmen and foremen of works are engaged. These may be considered as the steps forward we hope to accomplish this year.

The first exhibition of specimens of wood-carving was held in June last; and a second Exhibition, consisting of specimens of art-workmanship of various kinds by workmen, will take place in this room in a few days. Both must be viewed as preliminary steps taken to test the desire of artist-workmen to compete among themselves, and quite independently of their employers, for prizes given for superior skill. They have, however, been sufficiently successful to enable us, we think, to see our way to very superior results in future.

In providing papers for our Wednesday evening meetings, we shall endeavour, as

much as possible, to select subjects interesting to our members. Arts, Manufactures, Commerce, and Agriculture, will all meet with attention during the session, but the Council would particularly urge the co-operation of the members in finding good and interesting papers to be read at these meetings. There must be many among those I see before me able to read papers full of interesting and instructive matter, the publication of which in our *Journal* would be of great utility.

Those announced for the evenings before Christmas are likely to be more than usually interesting, but, besides these papers, we have arranged three courses of lectures, by professional gentlemen, eminent in their special departments. They will be delivered on Monday or on Thursday evenings, as may be found most convenient. The first course, by Mr. G. W. Hastings, D.C.L., is on "International Law, and its Commercial Relations," and will begin before Christmas. The others, by Mr. Crace Calvert, F.R.S., and Mr. Burgess, on "Chemistry Applied to the Arts," and "Fine Arts Applied to Industry," will follow in succession. Due notice of them will be given in the *Journal*.

The expense of these courses of lectures, which will be called the "Cantor Lectures," will be defrayed out of the interest of the legacy of £5,000, bequeathed to the Society by Dr. Cantor, and the Council feel assured the members of the Society will approve of this mode of employing the income entrusted to their care.

The Council have this year, in conjunction with the College of Physicians, to award the quinquennial "Swiney Prize," consisting of a silver cup, value £100, containing a purse of £100 in gold, for the best published treatise on Jurisprudence.

The Council will also, at the end of the session, award for the first time, the Society's Gold Albert Medal for distinguished merit in Arts, Manufactures, or Commerce, the new dies for which are in progress, the likeness of the Prince Consort having been submitted for the approval of her Majesty.

The Committees already appointed, in addition to those which are continued from last year, will, we hope, do good service. Perhaps one of the most important of them, when considered in all its bearings, is that to collect the statistics of model and other dwellings for the working classes, which will endeavour to digest a large mass of statistics relating to them already collected, and, if possible, to point out the causes of failure, the means of avoiding failure in future, and the best mode of meeting one of the crying evils of the day—the want of proper and decent home accommodation for working men.

Education, missionary efforts, increased wages, will produce no sensible effect so long as men, women, and children are all huddled together,

day and night, in one room. That vice should be the result of such a lamentable deficiency in our social arrangements for the poor, is not surprising, but it is a remarkable tribute to their character, that under such very adverse circumstances they should be so respectable as they are.

Two prizes, of £25 each, are placed in the hands of the Council by Mr. J. Bailey Denton, to which are added the Society's medals, to be offered for the most approved designs for cottages, to be built singly or in pairs, at a cost not exceeding £100 each. One prize is to be competed for by members of the Architectural Association, and the other is open to general competition.

Fine Art does not generally occupy much space in our annual addresses, but this season has been remarkable for the sale of a large number of our finest English pictures, and at prices which prove the annually increasing love of art among the middle classes of this country.

The Art Copyright Act of 1861, in the preparation of which this Society took so prominent a part, has, I believe, very much contributed to the rapid advance which has taken place in the value of modern pictures.

No one can doubt, who has seen the pictures which belonged to Mr. Bicknell, and others, recently sold by Messrs. Christie, that fine art in this country needs only just protection against fraudulent imitation and against the sale of pirated works; and that this should be given in the interest of both artist and purchaser, is quite consistent with the utmost freedom in the production of works of art by any means within the reach of the artist.

I cannot pass from this part of my subject without specially noticing one portion of the report of the Royal Commission on the Royal Academy. I refer to the recommendation that there should be a class added to the Academy for artist-workmen. This, I think, would, if managed with a due regard to their wants, characters, and power, be a most valuable addition to the art education of workmen, but the admission should be restricted to those who, either by competition or by the strong recommendation of their employers, have shown such an aptness in their respective trades, and so ardent a desire to improve themselves, as to ensure the useful employment of the great advantages that would, by the establishment of such a school, be offered to them.

The demand for pictures—the increasing demand for sculpture—whether for architectural embellishment or for statues in public places in our cities and country towns, show the greater appreciation of works of art in all parts of the country, and may fairly be considered as the result of the improved, and more matured and extended, art education of the present generation as compared with that of the one which preceded it.

I have now to approach two most important and interesting topics, one relating to the past and the other to the present and future operations of the Society. You have all, no doubt, observed and admired the memorial bust of His Royal Highness the Prince Consort, executed by Mr. Theed, which is placed in this room, in accordance with the resolution of the general meeting of the Society, held in March last, and we hope you will approve the manner in which the Council have carried out the views expressed by the members. Besides the bust, the pictures the subjects for which have been approved by the members, are in progress, and will, ere long, fill the vacant spaces between Barry's pictures. We shall then have before us, in sculpture and on canvass, the very best likenesses which can be obtained of the Prince Consort, as well as a portrait of Her Majesty, which, the Council feel assured, will be most gratifying to the members, and, will, we trust, keep alive in our memory the important influence His Royal Highness exerted over the prosperity of the Society, and will stimulate us to make it, now we have lost his invaluable counsel, as worthy of the distinguished support we now enjoy as it was of that we received during his presidency.

Many members present no doubt attended the meeting of the Society on the 22nd of last month, and took part in the very gratifying proceedings of that day, when we elected his Royal Highness the Prince of Wales—first a member, and then the President of this Society.

The circumstances connected with his election are full of interest, and I trust it will be the pride of the Society, as I am sure it will be its duty, so to conduct its affairs as to make it in years to come worthy of the support of His Royal Highness.

To accomplish this, we must never forget the noble and beneficent principles which were always uppermost in the mind and ever influencing the acts of the late Prince Consort. He had no sectarian prejudices. His sympathies were universal. He acknowledged the claims of every class—none were too humble for his generous solicitude. He looked upon ignorance as the depressing influence which restrained the generous feelings of all classes, and prevented their uniting to promote each other's improvement and advancement in life.

Upon the degree of comfort the working man could secure when at home with his family, and when tired with his day's work, he knew depended the cultivation of his mind during his hours of rest, and to improve and to increase this by building model cottages he devoted time and money. Upon the acknowledgment by their employers of the claims and proper position of domestic servants, he knew de-

pended the formation of those provident habits, which would confer, when they settled in life, inestimable benefits upon their families; and their interests he advocated personally, and in most eloquent language. To the improvement of industrial education, whereby workmen might be able to increase the value of their mechanical skill by a knowledge of the principles of their art, he devoted much valuable time and thought, correctly estimating the beneficial effect which must be produced upon this large and intelligent class if they could compare, at their leisure, the results of their labour with those of the labour of foreigners; and in their interest he warmly supported the Exhibitions of 1851 and 1862. To the painter and sculptor, and all engaged in fine art, he gave the greatest encouragement, as well by the taste, judgment, and great knowledge he displayed when presiding over the Fine Arts Commission, as by the purchases he made for his private collection.

We have then a great duty to perform. We must not slacken in our exertions, but we must consistently and energetically carry out the objects for which the Society was established—moving forward and widening our sphere of action—declining to promote no good object because it is new, or in advance of public opinion at the moment—and never halting in the promotion of any means which may be suggested to elevate the mental and physical condition of the industrious classes, thus showing to Her Majesty and our Royal President our determination to carry out the beneficent views of the Prince Consort, and that we appreciate the interest Her Majesty takes in the progress and prosperity of the Society, so graciously expressed in the reply of the Prince of Wales to the address presented to him.

To this end, then, let us continue to promote those great catholic principles of art and industry which tend to unite nations, as well as the individuals of each nation, in one common bond of fellowship. Let us strive to release industry from the shackles of prejudice and ignorance—to encourage the greatest freedom for the exercise of talent, come from whence it may, and thus to maintain this Society in the foremost rank of those who are striving to extend the operation of those humanising and peaceful influences which invariably follow the cultivation of the understanding, and enable all more fully to appreciate the wondrous works of God—whether manifested in the marvellous development of life in the smallest animalculæ, visible only through the microscope, or in the grandest and most magnificent works of Creation—so that all alike may feel and acknowledge, in the words which our late President selected for the inscription on the portico of the Royal Exchange, that—

“The earth is the Lord's and the fulness thereof.”

The CHAIRMAN then presented the Prince Consort's Prize to Mr. William Vaughan, to whom he addressed the following observations:—"In presenting you with the Prince Consort's Prize of 25 guineas, I have the gratification to inform the members present of the conditions which are required from those who earn this great distinction in the Annual Examinations of the Society. It is necessary that the successful Candidate shall have obtained, for four years in succession, the largest number of first-class certificates, and I have great pleasure in announcing that you have obtained the following first-class certificates:—

1860. Arithmetic—First-class Certificate (with First Prize of £5).

1861. Geometry—First-class Certificate (with First Prize of £5).

1862. Book-keeping—First-class Certificate.

" Mensuration—First-class Certificate (with Second Prize of £3).

1863. Algebra—First-class Certificate (with First Prize of £5).

" Trigonometry—First-class Certificate (with First Prize of £5).

" Conic Sections—First-class Certificate (with First Prize of £5).

And I cannot help observing that, whilst studying mathematics, you did not forget the importance of obtaining knowledge which would be useful in the practical duties of life, having, in 1862, taken the first prizes in Book-keeping and Mensuration. I may mention also that, at the annual distribution in 1863, your father, then a stonemason, received a medal from the Society for 'his machine for putting together chimney-pieces.' Under these circumstances, it is very gratifying to be able to reward such continuous industry, and to mark it by handing to you the Prince Consort's Prize."

In presenting the prizes to the artist-workmen who successfully competed at the Wood Carving Exhibition, the Chairman said he trusted that the prizes he now had the pleasure to give them on behalf of the Society of Arts and the Society of Wood Carvers would only serve to stimulate them to greater exertion at the exhibition, on a larger scale, which would be held during the present session. He might mention that the Society of Arts gave £30, and the Wood Carvers' Society £15, and that the judges were Messrs. John Bell, J. G. Crace, P. Graham and M. Digby Wyatt, nominated by the Society of Arts, and Messrs. Burgess Reeve, F. Broach, and G. W. Collins, nominated by the Wood Carvers Society.

The Chairman then distributed the prizes, as follows:—

FIRST DIVISION. HUMAN FIGURE IN ALTO OR BAS RELIEF.

Animals or natural foliage may be used as accessories.

1st Prize of £8 and the Society's Silver Medal, not awarded.

2nd Prize of £4, to James Meiklejohn, 29, William-street, Regent's-park, N.W., for "Apollo playing to the Shepherds," alto relief, in oak.

3rd Prize of £3, to G. Rumford, 9, Ecclestone-street, S.W., for "The Rose-bud," child's head in limetree.

SECOND DIVISION. ANIMAL OR STILL LIFE.

Fruit, flowers, or natural foliage may be used as accessories.

1st Prize of £8, to Mark Rogers, No. 111, Tachbrook-street, Pimlico, for a Panel, in walnut wood, of Dead Game, in a wreath of oak, blackberry, fern, &c., intended for the decoration of dining-room, sideboard, or chimney-piece—modelled and carved by him.

2nd Prize of £4, to be divided between—Green and Charles Humphriss, with honourable mention to T. H. Kendall, their employer, for "Life and Death," modelled by T. H. Kendall—Executed by T. H. Kendall, —Green, and Charles Humphriss.

3rd Prize of £3, to W. Perry, 5, North Audley-street, Grosvenor-square, W., for the "Willow Wren," "Robin in the Oak" (box wood), "Thrush" (lime tree), "Nightingale and Hawthorn," "Sedge Warblers and Dragonfly."

THIRD DIVISION.

Natural foliage, fruit, or flowers, or conventional ornament in which grotesque figures or animals may form accessories, preference being given where the work is of an applied character for ordinary decorative purposes, as representing commercial value.

1st Prize of £8, to T. H. Baylis, 69, Judd-street, for his "Casket in boxwood."

2nd Prize of £4, to T. H. Kendall, of Warwick, for "Paper Knife, Stiletto, and Christmas Box."

3rd Prize of £3, to R. Flipping, for "The Fish and Shell Panels," Portions of Sideboard, exhibited by Messrs. Gillow and Co.

Two extra Prizes were awarded by the Society of Arts of £2 each, to J. M. Leach of Louth, Lincolnshire, for a Panel for the Pilaster of a Cabinet, designed and executed by him; and to C. J. Herly, of 2, Camden-place, South-street, Taunton, for a Door Panel, designed and executed by him.

The Secretary announced that on Wednesday evening next, the 25th inst., a paper by Sir Charles Nicholson, Bart., "On New South Wales and its Commercial Resources," would be read.

SUBJECTS FOR PREMIUMS DURING THE SESSIONS 1863-64 AND 1864-65.

The COUNCIL, in issuing the subjoined List of desiderata, would urge upon the Members of the Society generally, and others, the importance of communicating detailed accounts of new processes in Arts or methods of Manufacture, of any modifications by which these may be simplified, or labour saved, and of any novel application of Raw Materials, whether previously known or not, to useful purposes. It is quite possible that some of the things here set down as to be done, may have been already accomplished, but in such cases the knowledge of them is limited. One of the objects of this Society is to elicit discussion on the subjects with which it deals, to see that nothing is concealed which may in any way tend to promote the good of all, and to record facts and opinions. The weekly meetings, and the *Journal of the Society of Arts*, afford the requisite faci-

lities for effecting this, and the Council earnestly hope that the opportunities thus given may be taken advantage of.

Patented Inventions are not excluded from receiving the Society's awards.

The Society is willing to receive communications on subjects not included in the following list, but in all cases expressly reserves the power of rewarding any communication according to its merit, or of withholding the Premium altogether.

The degree of originality and extent of suggestions for improvements will have material influence on the adjudication of the award.

In all cases a full account and description of the invention for which a premium or medal is sought must be sent to the Society.

All communications must be written on foolscap paper, on one side only, with an inch and a quarter margin. They must be accompanied by such drawings, models, or specimens, as may be necessary to illustrate the subject. The drawings should be on a sufficiently large scale to be seen from a distance when suspended on the walls of a meeting-room.

In regard to Colonial Produce of all kinds, it is absolutely necessary that a certificate from the Governor, or other qualified person, should accompany the samples sent to the Society, certifying that they really are the produce of the particular district referred to. The samples should be sufficient in quantity to enable experiments to be made, and an opinion to be formed of their quality; and it is desirable that the cost price in the district from which they are forwarded should be given. In every instance the probable extent of supply, with the average yield, if cultivated, and whether similar articles have hitherto been exported from the Colony or not, and in what quantities, should be stated.

All communications and articles intended for competition must be delivered, addressed to the Secretary, at the Society's House, free of expense, either on or before the 31st of March, 1864, or on or before the 31st of March, 1865, except where otherwise stated. In the first case they will be considered during the Session 1863-64, in the second case during the Session 1864-65. This restriction, as to the date of receipt, does not apply to articles of Colonial produce, in respect of which this list is valid until 31st December, 1865.

Any communication rewarded by the Society, or any paper read at an ordinary meeting, will be considered as the property of the Society. Should the Council delay its publication beyond twelve months after the date of its being rewarded or read, the author will be permitted to take a copy of the same, and to publish it in any way he thinks fit.

Unrewarded communications and articles must be applied for at the close of each Session, be-

tween the third Wednesday in June and the last Wednesday in July, after which the Society will be no longer responsible for their return.

By order,

P. LE NEVE FOSTER, *Secretary*.
October, 1863.

PREMIUM LIST.

SPECIAL PRIZES.

SWINEY PRIZE.

BEST WORK ON JURISPRUDENCE.—Under the will of Dr. Swiney, a Silver Goblet, of the value of £100 sterling, containing gold coin to the same amount, is presented on every fifth anniversary of Dr. Swiney's death to "the author of the best published treatise on Jurisprudence."

The next award of this prize will be made on the 20th of January, 1864. Competitors for this prize should send in copies of their published works to the Secretary.

FOTHERGILL PRIZE.

Under the will of Dr. Fothergill, funds are bequeathed for the offer of a medal, and "the following subjects are proposed to the Society for their consideration:—

"1. The best method of preventing destructive fires, and of detecting incendiaries.

"2. Of speedily extinguishing fires when water is scarce.

"3. Of speedily securing valuable property from the flames, and also from thieves.

"4. Of preventing or diminishing the numerous fatal disasters from fashionable muslin dresses catching fire, whether by rendering such dresses less combustible, or having constantly in readiness a large cloak of incombustible fabric composed of asbestos or amianthus, with which instantly to envelop the whole body.

"Paper of this kind (incombustible) might preserve from fire valuable deeds and other manuscripts. A premium for the encouragement of such a manufacture is also earnestly recommended.

"The above to be varied at the Society's discretion."

On the present occasion the Society's medals are offered:—

STEAM FIRE ENGINES.—1. For the best and most efficient steam fire-engine for land use.

2. For the best and most efficient steam fire-engine capable of self-propulsion on land.

The conditions required are:—Rapidity in raising and generating steam; facility of drawing water; volume of water thrown; distance to which it can be thrown; lightness, strength, and durability.

STOCK PRIZE.

Under the will of John Stock, funds are bequeathed for the offer of a medal for the encouragement of Drawing, Sculpture, and Architecture.

SHELL CAMEO.—On the present occasion the Society's medal is offered to female artists, for the best cameo designed and executed on any of the shells ordinarily used for that purpose.

TREVELYAN PRIZE.

PRESERVED FRESH MEAT.—The sum of £70, placed at the disposal of the Council by Sir W. C. Trevelyan, Bart., with the Society's medal, is offered for the discovery of a process for preserving fresh meat better than by any method hitherto employed, applicable to the preservation of meat in countries where it is now almost valueless, so as to render it an article of commerce and available for stores on ship-board.

Specimens, with detailed accounts of the process employed, must be sent to the Society.

DENTON PRIZES.

COTTAGES FOR THE LABOURING CLASSES.—Two prizes, of £25 each, are placed in the hands of the Council by J. Bailey Denton, Esq., to which are added the Society's medals, to be offered for the most approved designs for cottages, to be built singly or in pairs, at a cost not exceeding £100 each. One prize is to be competed for by members of the Architectural Association, and the other is open to general competition.

Detailed particulars have been issued and may be had on application to the Secretary.

The plans, drawings, and specifications, must be sent to the Society's House, not later than the 1st January, 1864.

ART WORKMANSHIP AND WOOD-CARVING EXHIBITION AND PRIZES.

Prizes are offered by the Society in these subjects, and an Exhibition will take place in 1864.

Special lists relative to this competition will be issued.

GENERAL LIST.

* * The Society's medals will be awarded for communications or discoveries in relation to the following subjects:—

1. **GOLDSMITHS' WORK.**—For the best essay on Ancient Goldsmiths' Work.
2. **BRONZES.**—For the best essay on the manufacture and casting of Bronzes, and on bronze washes.
3. **MOULDS FOR METAL CASTING.**—For the production of a material to be used in the formation of moulds for casting bronzes and other molten metals, so as to enable the casts to be produced without seams.
4. **PIGMENTS.**—For an account of the various pigments used in the Fine Arts, with suggestions for the introduction of new and improved substances.
5. **SUBSTITUTE FOR WOOD BLOCKS.**—For the discovery of a substitute for the blocks used by wood-engravers, so as to supersede the necessity of uniting several pieces of wood.
6. **PHOTOGRAPHS ON ENAMEL.**—For the best portrait obtained photographically and burnt in in enamel.
7. **PHOTOGRAPHS ON CHINA.**—For the production of a dessert or other service, in China or earthenware, ornamented by means of photography, and burnt in from an impression obtained, either directly from the negative, or from a transfer from a metal plate obtained directly from the photograph.
8. **PHOTOGRAPHS ON GLASS.**—For a table service in glass ornamented by means of photography, under similar conditions to the above.
9. **PHOTOGRAPHS ON WINDOWS.**—For the production commercially of ornamental glass for windows by means of vitrified photographs.
10. **FLUORIC ACID.**—For a substitute for fluoric acid to be used for engraving on glass, which shall be free from noxious fumes.
11. **REPRODUCING DESIGNS FOR PRINTING.**—For a rapid means of reproducing artistic designs or sketches, for surface printing by machinery, such process to provide for lowering portions of the work to fit it for steam printing.
12. **ROLLERS FOR CALICO PRINTING.**—For any important improvements in facilitating the production and economising the cost of engraving rollers for printing calicoes and other fabrics.
13. **DOCTORS FOR CALICO PRINTING.**—For the best material for, and form of "doctors" for calico printing machines, which shall obviate the several objections to those now in use.
14. **ANILINE COLOURS.**—For a means of fixing upon cotton and other fabrics all the ordinary aniline colours, so that the dyed fabric will effectually resist the action of soap and water, or cold dilute alkalis.
15. **NAPHTHALINE.**—For a practical process for converting the naphthaline of gas works into alizarine or madder-red.
16. **TURKEY RED.**—For an essay, with the results of experiments, on the manufacture of Adrianople red.
17. **NEW SCARLET DYE.**—For the production of a scarlet dye for cotton.
18. **MUREXIDE RED.**—For rendering murexide red more permanent, when exposed to the atmosphere and sulphurous vapours.
19. **BLEACHING WOOL.**—For an account of any important improvements in the bleaching of wool.
20. **LAKES FOR CARRIAGES.**—For the production of cheap purple and yellow lakes, of good quality, suitable for carriage builders, &c., and not liable to fade or change colour.
21. **MORDANTS.**—For a treatise on the mordants employed in the dyeing of cotton, wool, and silk.
22. **NEW GREEN DYE.**—For an account of the "green dye from Malda," as shown in the Indian department at the International Exhibition of 1862, including original researches, giving methods of fixing the same upon cotton and other fibres and yarns.
23. **GREEN WITHOUT ARSENIC.**—For the manufacture of a brilliant green colour, not containing arsenic, copper, or other poisonous materials.
24. **CHLOROPHYLL.**—For the manufacture of chlorophyll from grasses, suitable for dyeing silk and other fabrics of a green colour.
25. **GREEN DYES.**—For the manufacture of green dyes from coal or wood tar.
26. **ULTRAMARINE.**—For an artificial ultramarine, not liable to alteration when thickened with albumen and fixed by steam.
27. **COLOURS FOR DYEING, &c.**—For the discovery of oxy-naphthalic acid, a preparation of chloroxy-naphthalic acid, or for a treatise on the application of Laurent's colours to dyeing and calico printing.
28. **TRADE IN FOREIGN DYE STUFFS.**—For an essay on the influence of the Aniline series of colours upon the trade and commerce in foreign dye stuffs.
29. **THICKENING COLOURS.**—For the introduction of any substance the use of which will essentially economise the cost of thickening the colours and sizes used in dyeing and dressing fabrics.
30. **SUBSTITUTE FOR EGG ALBUMEN.**—For a thoroughly decolorised blood albumen, or any economic and efficient substitute for egg albumen for calico printing.
31. **USE FOR YOLK OF EGGS.**—For a new, large, and economic use for the yolks of eggs, with particulars of the mode of preparation and preservation.
32. **USES OF SEAWEED.**—For the extraction from seaweed of any substance, or preparation, capable of extensive application as a dye, drug, thickening, tanning agent, or other generally useful product.
33. **CLAYS.**—For an account of the mode of occurrence, and of the uses of Cornish, Devonshire, and Dorsetshire clays, and the quantities annually worked.
34. **ARTIFICIAL STONE AND TERRA COTTA.**—For an account of the various artificial stones and Terra Cottas introduced and employed for purposes of construction, stating their properties, advantages and imperfections, and their relative cost.
35. **LIGHTING AND VENTILATING MINES.**—For an account of the methods at present in use in the various coal-mining districts for ventilating and lighting the mines, with suggestions for their improvement.
36. **COPPER SMELTING, &c.**—For an account of the various commercial copper ores, of the smelting processes, and the methods by which the precious metals can be separated from copper.
37. **TIN.**—For an account of the treatment of Tin, and its application in the Arts and Manufactures, and of recent discoveries of new sources of supply.

38. **WOLFRAM.**—For an account of the modes by which Wolfram can be separated from other ores; and of the uses of Tungsten in the Arts.
39. **MENACCANITE.**—For an account of Menaccanite or Isereine, and suggestions for obtaining Titanium from these ores.
40. **TITANIUM.**—For the best essay upon Titanium, with suggestions for extracting and utilising the metal.
41. **SMELTING ZINC.**—For an account of the processes now in use for smelting Zinc ores, with suggestions for their improvement.
42. **SULPHUR AND ARSENIC.**—For the best account of the production of Sulphur and Arsenic from the metalliferous ores of the United Kingdom, with statistics of the use and export of these substances.
43. **MINING MACHINERY.**—For improvements in the machinery for dressing poor ores of tin, lead, &c.
44. **ROPES FOR MINES.**—For an account of the comparative value of chains, hemp and wire ropes, for drawing ores from mines, giving the practical result of experiments.
45. **PUMPING ENGINES.**—For an account of the relative merits of the different kinds of engines used for drawing water from mines.
46. **PLUMBAGO.**—For the discovery of graphite in Australia, of a quality and in quantity calculated to be commercially useful.
47. **ALUMINIUM.**—For any new or improved process for the manufacture of Aluminium which by cheapening its cost may render it applicable to many purposes for which it cannot now be employed.
48. **SILICIUM.**—For the best essay upon Silicium, and its uses.
49. **MELTING CAST STEEL.**—For an easy and cheap method of melting cast steel in large masses.
50. **AGRICULTURAL STEAM-ENGINE.**—For the production of an efficient agricultural steam engine, capable of use on the farm, and of being made available as a traction-engine, either on tramways or common roads, for carrying farm produce and manure to railway stations.
51. **REGENERATIVE FURNACES.**—For the best account of the structure and application of regenerative furnaces to manufacturing purposes.
52. **BREWERY PLANT.**—For a descriptive account of improved designs for the construction and plant of breweries especially in the arrangements for boiling, cooling, hoisting, pumping, washing, temperating, cask-washing, &c.
53. **HYDRAULIC ENGINE.**—For a small, simple, cheap, and effective hydraulic engine, which in connection with the ordinary water-service of towns could be applied to lifts in warehouses, driving lathes, blowing the bellows of organs, and many other purposes where steam cannot be made available.
54. **LIGHTING RAILWAY CARRIAGES.**—For a system of lighting railway carriages with gas, each carriage to have an independent supply equal to the duration of the oil-lamps now carried, and the system to be adaptable to existing carriages.
55. **LOCOMOTIVES FOR TUNNELS.**—For the best locomotive engine for working in tunnels and underground railways, so as to avoid the injurious effects of ordinary engines.
56. **RAILWAYS.**—For a complete and economic system of constructing railways in iron, with the necessary plant for working railways in tropical countries and the Colonies.
57. **PROTECTING IRON.**—For the invention of an efficient method of protecting iron from the action of air and water, applicable to the various forms in which iron is used as a building material generally, and also to iron ships and armour-plated vessels.
58. **UNSINKABLE SHIPS.**—For plans or suggestions for the construction of an efficient and seaworthy vessel, of such materials and specific gravity, that when perforated either by shot or accident, she shall still maintain her floating power.
59. **IRON SHIPS.**—For the best and most convenient method of welding together the frame-work and covering of iron vessels, so as to dispense with bolting and riveting.
60. **DIVING APPARATUS.**—For an improved diving apparatus in which divers may work free from the influence of great pressure, and at greater depths than by means of the diving bell, helmet, or other existing appliances.
61. **SHOAL RECORDER.**—For an instrument to indicate the depth of water under a ship's bottom to prevent danger when at sea or nearing land.
62. **SMOKELESS FUEL.**—For the discovery or manufacture of a new smokeless fuel, which shall not occupy more space, or be of greater weight than the fuel now in use; and shall be equal in amount of heating power, without liability to injure metals in contact with it.
63. **MOTIVE POWER.**—For the generation of power in sea-going vessels by any process whereby the necessity for carrying a large supply of coal may be avoided.
64. **STEAM COAL IN AUSTRALIA.**—For the discovery, in any of the Australian Colonies, and the introduction into local commerce of a good steam coal. Particulars of probable quantity available, distance of mine from shipping port, and comparative heating power and cost to be furnished.
65. **ELECTRICITY.**—For any new process for producing or obtaining galvanic electricity, so that it may be obtained in large quantities at small cost.
66. **APPLICATION OF ELECTRICITY TO ORGANS.**—For the production of an organ in which, by the use of electricity or magnetism, tones of greater length and variety than those ordinarily produced on barrel-organs may be performed mechanically.
67. **ELECTRIC WEAVING.**—To the manufacturer who practically applies electricity to the production commercially of figured fabrics in the loom.
68. **SILK BOBBIN.**—For a bobbin for silk, which shall possess exact uniformity of weight, be incapable of being made heavier without detection, and which will not absorb moisture. The material employed must not be liable to chip, or to affect the colour of the silk wound on it.
69. **LACE MACHINERY.**—For a mechanical substitute for hand-labour in running in the outline to figures in machine-wrought lace.
70. **WOVEN GARMENTS.**—For the production in the loom, and introduction into commerce, of woven garments suited for soldiers, sailors, emigrants, operatives, and others, so as to economise the cost of production, and reduce the amount of hand labour.
71. **INCOMBUSTIBLE PAPER.**—For the production of an incombustible paper, so as to render the ledgers of commercial men, bankers, &c., indestructible by fire.
72. **DRESSING AND DYEING SKINS.**—For an account of the materials and methods at present employed in preparing and dressing skins, and the colours and treatments to which they are submitted in dyeing.
73. **DYEING AND DRESSING LEATHER.**—For improvements in the method of dyeing or dressing morocco or calf leather, in such manner as to prevent the surface from cracking in working, and to render it more fit to receive the gilding required in ornamenting books, furniture, and other articles.
74. **LEATHER CLOTH.**—For improvements in the manufacture of leather-cloth or artificial leather, especially in imparting strength and durability, so as to fit it for the purposes of saddlers, harness-makers, trunk-makers, shoemakers, book-binders, and others.

75. **SUBSTITUTE FOR WOOL.**—For any fibrous material available in large quantity and at a low price, capable of being used advantageously in textile fabrics, as a substitute for wool. The fibre should be from 1 to 6 or 8 inches in length, and suitable for being spun on the ordinary woollen or worsted machinery.
76. **SUBSTITUTE FOR COTTON OR FLAX.**—For any new fibrous plant or substance which may be used wholly or in part as a substitute for cotton, flax, hemp, &c., or any new processes whereby useful fibres may be extracted from plants.
77. **NEW GUMS.**—For any new substance or compound which may be employed as a substitute for Indian-rubber or gutta-percha in the arts and manufactures.
78. **NEW GUMS OR OILS.**—For any new gum or oils the produce of Africa, calculated to be useful in the arts and manufactures, and obtainable in quantity. Samples of not less than 25lbs. of gum, and 50lbs. of oil to be transmitted to the Society.
79. **ELASTIC TUBING.**—For an elastic material for tubing suited to the conveyance of gas, and not liable to be affected by alterations in temperature, or to be acted upon by the gas itself.
80. **GLASS.**—For the production of glass by the use of the constituents of which the French sands are composed, such glass to be of a quality equal to that produced from those sands.
81. **COLOUR FOR JAPANNED SURFACES.**—For the preparation of any colour, applicable to the japanned surfaces of papier maché, that shall be free from the brightness (or glare) of the varnished colours now used, but possess the same degree of hardness and durability.
82. **COLOUR FOR SLATE.**—For the preparation of light colours to be used in enamelling or japanning slate, which will stand the action of the heat from the fire without blistering or discoloration, and be sufficiently hard to resist scratches.
83. **JAPANNING ZINC.**—For a process whereby the surface of articles manufactured in zinc may be economically japanned.
84. **COATING WALLS.**—For the production of a cheap white enamel-like composition for the interior walls, &c., of houses, applicable to all ordinary surfaces, easily cleansed, not liable to crumble or chip, and capable of being tinted.
85. **SUBSTITUTE FOR TURPENTINE.**—For a new and efficient substitute for turpentine applicable to the manufacture of varnishes, and to purposes for which turpentine is now ordinarily applied.
86. **SUBSTITUTE FOR PITCH.**—For a cheap substitute for pitch, tar, &c., equally impervious to air and moisture, but non-inflammable.
87. **PAPER MACHINERY.**—For a portable machine for planing the bars of a rag-engine roll true when the roll is in position.
88. **PAPER MACHINERY.**—For a cheap substitute for the expensive copper rolls now used in paper machines; a firm surface, not easily damaged by indentation, and not liable to oxidation is essential.
89. **PAPER MATERIAL.**—For the best essay upon paper-making materials, with suggestions for reducing economically the more refractory ligneous substances suited for papermaking to a fibrous pulp by mechanical or chemical means.
90. **ROLLERS FOR PRINTING PAPER-HANGINGS.**—For a composition for feeding rollers for printing paper-hangings by cylinder machinery, similar in consistency and texture to the gelatine rollers used in letterpress printing, but adapted for working in water colours.
91. **PAPER HANGINGS COLOURED IN THE PULP.**—For the manufacture of papers from coloured pulp, bearing upon them designs, either coloured or white, discharged after the manner of calico printing.
92. **LUBRICANTS.**—For an account of the sources of supply, processes of manufacture, and relative value of the various lubricants employed on working machinery and rolling stock.
93. **RED OIL.**—For the solidification of oil by nitrous compounds, without the formation of red oil, or for the removal of the red oily body without injury to, or softening the solidified fat.
94. **IMPROVED CHEMICAL BALANCE.**—For the best chemical and assay balance, suitable for the use of students and experimentalists, which will (with 600 grains in each pan) show a difference of .005 or less. To be sold at a moderate price.
95. **CHEAP SPECTROSCOPE.**—For the best and cheapest form of spectroscope.
96. **DIALYSING APPARATUS.**—For the best and cheapest form of dialysing apparatus, capable of being packed in a small compass, but of sufficient size to aid the country practitioner in the detection of poisons and adulterations, and in the preparation and purification of salts and drugs.
97. **INCOMBUSTIBLE WICK.**—For the production of an incombustible wick, suitable for oil, spirit, and other lamps.
98. **CYANOGEN COMPOUNDS.**—For the economical production of cyanogen compounds for employment in the arts, or as manures.
99. **NAPHTHALINE.**—For the discovery of a practical means of utilising naphthaline.
100. **OXYGEN GAS.**—For a more economical process of obtaining oxygen gas than any in present use.
101. **NEW EDIBLE ROOTS.**—For the discovery and introduction into this country of any new edible root useful as food for man or cattle, and capable of extensive and improved cultivation.
102. **EDIBLE SEAWEEDS.**—For a means of rendering seaweeds generally available as a wholesome vegetable food on board ship.
103. **AUSTRALIAN SUGAR.**—For the production and manufacture of not less than one ton of cane sugar, the produce of any of the Australian colonies. Details of the extent of land under cultivation, the yield of sugar per acre, and the cost of production per ton, to be furnished.
104. **AUSTRALIAN COFFEE.**—For the successful introduction of coffee cultivation into any of the Australian colonies, and the production of 1 cwt. of merchantable coffee. Samples of 10 lbs. to be sent to the Society.
105. **SPICE CULTURE IN AUSTRALIA.**—For the introduction of the nutmeg, clove, pepper, or any other useful commercial plant into the Australian colonies, and the production of not less than one cwt. of produce therefrom. Samples of at least 1 lb. of each to be sent to the Society.
106. **AILANTHUS SILKWORM.**—For the introduction of the Ailanthus silkworm into Australia, and the production of not less than one bale of silk. Samples of 1 lb. at least to be sent to the Society.
107. **FLAX IN AUSTRALIA.**—For the production in any of the Australian Colonies of Flax of a good marketable quality. A sample of not less than one bale to be forwarded to the Society.
108. **AFRICAN SPICE PLANTS.**—For an account of the spice plants and condiments of Africa, wild or cultivated, with samples and cost.
109. **ESSENTIAL OILS FROM AUSTRALIA.**—For the introduction into commercial use at a moderate price of the essential oils shown at the late International Exhibition from Australia, or of any other new essential oil likely to be useful in medicine or the arts.
110. **MINERAL OIL FROM AUSTRALIA.**—For the manufacture in Australia of any very cheap oil from mineral or other sources, and its application to the purposes of illumination, lubricating machinery, use in the industrial arts, &c.

111. **IMPROVED SUGAR MACHINERY.**—For a practical report on any recent improvements in sugar machinery introduced into and adopted in the British or French Colonies, or on the Continent.
112. **EMIGRANTS' DWELLINGS.**—For the best essay (for the information of emigrants proceeding to new settlements,) descriptive of the means of treating existing natural products in any locality, such as earth, shells, chalks and limestones, woods, barks, grasses, &c., and applying them in the construction of dwellings. Diagrams and illustrations of the methods of applying materials should be given.
113. **COLOURED STARCHES.**—For the production of a series of coloured starches, which can be applied to articles of dress, such as lace, &c., without injuring or staining the fabric, but at the same time give to them the required tints, and thus render them in harmony with other portions of dress.
114. **TOBACCO.**—For an account of the cultivation, preparation, and manufacture of the various kinds of tobacco and the commerce therein.

STATE AID TO ART.

The speech, or rather address, of Mr. Gladstone at the laying of the foundation stone of the Wedgwood Institute—for he had taken the unusual pains first to write, and then to read, his address—having been already in *Journal*, the speech of the minister in the House of Commons more particularly responsible for the administration of the grants for promoting art, is now re-printed from the local papers. It has not yet appeared in any London journal.

The Right Hon. R. Lowe, M.P., said he begged to return thanks for the honour they had done the members of the House of Commons in remembering them on that occasion, and he thought it quite right that they should be remembered on that occasion, because it was from their munificence that they received some peculiar assistance towards the institutions of the country, like that of which the first stone had been laid that day. The House of Commons might be said to be a liberal but strict master, because, like Earl Granville, and hon. gentlemen who were present, they knew that they had a duty to perform, and that they had to do the best they could with the money of the people for the support of the various institutions of the country. They had heard, in language which they could not forget, the duty of throwing upon the state a certain amount for the promotion of the beautiful in the manufactures of the nation. That duty was incumbent on the state, because history and experience taught that a nation which had attained a high state of civilisation might exist with a deplorable taste for art if it had not the power of redeeming and regenerating itself. That duty, under the direction of the late Prince Consort, the House of Commons undertook some eleven years ago. He might state the measure that had been undertaken in order to carry out the views held by public men, though not expressed with the brilliancy and power with which that measure had been advocated that day. It appeared to the statesmen and House of Commons of that day that to meet the taste of the manufacturers of the country it was necessary to do three things. First, to establish a number of schools in the great seats of manufactures in the kingdom; secondly, to establish a normal school, or college, for the instruction of the masters of those schools; and thirdly, to collect and bring under the notice of manufacturers and the working classes of the country the most beautiful specimens of art that could be obtained from any part of the world. All those three things had been done. Ninety schools had been established, and were employed in teaching, with great fruit and profit, the working classes of the country, the beautiful in art manufactures. There was in London an excellent institution, which was entirely a national one, its object being to provide masters for the ninety schools already established, or any number that

might be brought into existence; and these were collected together in South Kensington—admirable specimens of almost every kind of decorative art which the ingenuity of mankind could design. So far the House of Commons had shown proper attention to the duties imposed upon them. He thought the House of Commons had shown great munificence in providing for the manufacturers. He could speak from his own experience, and say that for five years the House had in no case refused any of the votes asked for that purpose. But they could not suppose that that could have been done without their being exposed to very considerable difficulty. It was necessary, if those institutions were to be really valuable institutions, that they should comply with the law which seemed to govern all public movements, namely, that they should be mainly self-supporting, that they should not become government creations, but that they should be supported by local energy and local liberality. And for that reason government had found it necessary not to make grants to such an extent as to relieve localities entirely from the necessity of contributing, and had found it right to require that the state should receive full value for its money. They had with that view made a recent alteration, by which they paid for results—for work actually done—and thus such money as they did pay was as assistance, and as a stimulus to improvement. And there was another difficulty with which government had to contend: that was, that whilst they wished to help forward a national work, they were subjected to a suspicion that they were only helping a metropolitan work, and that they were starving the provinces, for whose benefit that establishment was really intended. They had done all that could be guard against that. It was necessary that the seat of government should be in London, otherwise they could not command the assistance of those eminent men whom they employed. But it was also necessary that in London their examples and collections should be open to all provincial schools. In that respect they had done the utmost in their power. They had collections which were available for the use of the whole of the country at the expense of the Department; and they were willing at any time to send anything out of the Museum for the use of any school that might require it, on the easiest possible conditions. In fact, any object that might be desirable for exhibition was at the disposal of any provincial school. The only condition was that the party requiring it would see that it was safely taken care of, and the government would send it, and pay for the carriage of it back again. The object of government being to spread art as far as possible, if it were thought desirable to make the central Department more provincial, the Department would be open to receive any suggestions that might be made with that view. There were eleven metropolitan schools having precisely the same advantages as those in the provinces; and if the schools in the provinces complained that they did not receive sufficient money, he could only say let them work harder and earn more. He believed that the system was fairly launched, and they were overwhelmed with testimonials of the good effects produced on the manufactures. They had the testimony of every commissioner of the International Exhibition last year, of the improvement of art in England; and he thought that the result was due to the care taken by the Government in the matter, and the establishment of such institutions as that of which the foundation stone had been laid that day. He came there that day to offer his homage to the people of the town for having set in motion a system for making their contributions in the way of a rate. It was a great honour to the public spirit of the place; and if reflections had been made as to any little dispute amongst them, he thought this ought to be taken into consideration—that they had set a noble and brilliant example that would do credit to any town in England. They had had their institution ushered into existence with unusual éclat. It would always be remembered by that speech of which it had been the cause and the occasion; and he hoped

those who had the direction of it would remember that they had an obligation thrown upon them, and that in the splendour of their career they would strive to make the institution worthy of the eloquence with which it was commenced.

Fine Arts.

The working men of Leeds have determined to erect a memorial statue to the late Sir Peter Fairbairn.

ART CRITICS.—Mr. J. Rubens Powell has written to the *Athenæum* that Dr. Waagen, the director of the Royal Picture Gallery at Berlin, in his well-known work on "The Galleries and Cabinets of Art in Great Britain," when describing the pictures in Lord Normanton's Gallery at Somerly, points to a Claude "as an admirable work of the middle and best time of the master;" another Claude, he says, "takes a prominent place for richness of composition, power and transparency of foreground, tenderly graduated airy distance, and mild and warm tone of sky." Four pictures by Greuze, he says, "are all genuine and attractive." Then turning to Reynolds' works, Dr. Waagen says of "The Fortune Teller," it possesses "great power of colouring," and of the "Infant Samuel," "it is the finest example he knows of the master." Now, the Claude's, the Reynolds's, and one of the "genuine" Greuze's, Mr. Powell says, are his works—copies he made for Lord Normanton—four of them from well-known works in our national collection. How does this strange wholesale mistake arise? The criticism is too minute to attribute it to off-hand carelessness, and it would be hard to assign want of knowledge. No painter of reputation could have fallen into such an error, and the judgment refers to the *technical* merits of the paintings, which any other than a professional man must judge with great difficulty. The critics do not, however, admit this, and it has just been announced by another of the class in the *Fine Arts Review* that "science, particularly applied science, is pre-eminently matter of professional concern and judgment; but, on the other hand, art is a matter of concern and judgment to all cultivated men who have turned their minds to it." So as all men's minds in our day are cultivated, all are art critics if they will only "turn their minds to it,"—an opinion which daily receives larger confirmation. Our old-fashioned authorities did not however, think so, for Northcote, R.A., says, "it is my fixed opinion that if ever there should appear in the world a memoir of an artist well given, it will be the production of an artist." He would suffer no other commentator on the man or his works; and his opinion was, in his day, looked up to with respect.

THE PARIS CORRESPONDENT of the *Daily Telegraph*, announces an interesting sale of original drawings to take place at Versailles, from the 7th to the 12th December next, which will include designs of Mansard, Le Nôtre, Le Brun, Mignard, Vandermuelen, and others, illustrating the building of Versailles.

Commerce.

SHIPBUILDING AT NANTES.—Shipbuilding continues to occupy the attention of the Nantes merchants. There are twelve shipbuilding yards, and in 1862 twenty-three vessels were constructed, in addition to three iron floating batteries of ten guns each, for the French Government, and a large iron frigate for the Italian Government, of 3,000 tons, on the banks of the Loire, opposite to the town. There are numerous building yards, in which are inscribed the names of all the ships by them constructed. A very large establishment has been formed at St. Nazaire, by a well-known firm of Greenock, for the construction of transatlantic steamers, and a huge building constructed for the accommodation of ten or twelve hundred workmen for the works. Many

pieces of machinery, of the newest invention, have been introduced. Three large iron steamers are already in a forward state, and will be completed early next year. The five iron steamers for the transatlantic line, in the course of construction, will be among the largest known. The building yards serve as models, both as regards the implements and machinery for construction and the depth of water for launching vessels. An engineer of the marine department from the Arsenal of L'Orient, is stationed at St. Nazaire to superintend the works. There was no shipbuilding there before these ships were commenced, and since the immense works which have been completed and others in progress, this port, at the mouth of the Loire, appears likely to become of very great commercial importance and to prove injurious to the port of Nantes.

EXPORTS OF TAHITI.—The average quantity of cocoa-nut oil exported from Tahiti in the last seventeen years was about 250 tons per annum—but in 1861, 520 tons, of the value of £15,600, were shipped. Of mother-of-pearl shells, the average shipment in the same period was nearly 300 tons per annum, of the aggregate value of about £8,000. The average market prices free on board were £25 to £30 per ton for shells, and £26 to £30 per imperial tun for oil. A falling-off has been marked in the quantity of pearl shells lately obtained at the Paumotu group; this falling-off is attributed, by those engaged in the trade, to a growing and natural dislike on the part of the natives to engage in so severe an occupation as that of diving, when they find they are able to supply their wants by the far easier task of making cocoa-nut oil. In the production of this latter commodity a corresponding increase has consequently taken place. A considerable trade in oranges is carried on during the season (from January to July) with San Francisco, California. About 3,000,000, of the value of £4,000, are annually shipped. The shipping price, packed, is from 24s. to 28s. per thousand. This fruit grows in Tahiti and its dependency, Moori, in great abundance, without culture, and is of superior quality.

Colonies.

NEW ZEALAND INDUSTRIAL EXHIBITION.—It is stated that the proposed Industrial Exhibition for New Zealand, to be held in 1865, is receiving the general support of the colony, and there is a probability of it being a great success. It is intended to be held in Dunedin, in January, 1865, and the government of the province have come forward liberally towards the cost of the building. The governor has appointed commissioners, under the seal of the colony, in each of the provinces. Everything that is adapted to the development of the resources of the colony will find a place, and great inducements will be held out to English machinists and manufacturers to contribute.

NEW ZEALAND FLAX.—Numerous attempts have lately been made towards the successful and economical preparation of the *Phormium tenax*, or native flax. A company has been formed in England for working this fibre. The great difficulty in the way of the success of any large undertaking of this nature consists in the want of interior communication. The largest tracts of land covered with the *Phormium tenax* are in parts of the country from which the carriage to the place of shipment would be a serious item in the cost of the prepared fibre. Few have an adequate idea of the large area of ground that it takes to produce a ton of prepared fibre. Another, and by no means the least consideration, is this, that the land on which the native flax grows most luxuriantly is generally the best land, and could be cultivated to a much more profitable purpose than the growth of the *Phormium tenax*.

GOLD FIELDS.—The gold discoveries in New Zealand, more particularly in the provinces of Nelson and Otago, are rapidly extending. In Nelson some very rich deposits

have been found in the river Mangles, and the diggings on the rivers Buller and Wangapella are proving rich in the precious metal. The great drawback to the satisfactory working of the Nelson goldfields consists in the almost entire absence of roads. The country is very broken, extensive thickly wooded gorges and rugged precipitous mountains interposing enormous difficulties in the way of communication. The Nelson people are now seriously contemplating the construction of a railway to traverse the district known to be rich in gold, copper and coal. The Coromandel goldfield, in Auckland province, languishes under the effects of the war raging in that province, and most of the miners have left until quieter times. Gold mining in Otago has, for the last three months, been seriously interrupted by the severity of the winter. But the worst part of the season is now over, and warm genial days have latterly prevailed. Mining operations are, in consequence, reviving in every direction, and the goldfields' population is in high spirits. Many new discoveries have recently been made, and the areas of the goldfields are rapidly extending. A new goldfield, about seventy miles from Dunedin, in a northerly direction, was discovered about three months ago, and about 5,000 persons are settled there, doing remarkably well. It is confidently anticipated that the ensuing season will prove a very brilliant one. The quantity of gold produced by the Otago goldfields during the current year is 405,831oz., and the export of the precious metal, 450,595oz. In New South Wales there has been no further development of the goldfields, and trade is rather dull. The most expansive part of the trade just now is the development of the coalfields. Many new mines have been opened, and the competition has led to a reduction in price, as well as to an improvement in quality.

MAORI INGENUITY.—The natives are hard pressed for powder during the present war, and somehow or other they either procure it or they manufacture a substitute. The latest instance of their cleverness was discovered when a native woman offered a sovereign for a quantity of little trap eyelet-holes, such as ladies use in lacing, and on inquiry it turned out that the Maories required them for percussion-caps, having found that the top of a common lucifer-match inserted in the centre of these eyelet-holes answered every purpose.

Publications Issued.

THE PORT AND TRADE OF LONDON, historical, statistical, local, and general, by Charles Capper, in demy octavo, 520 pages, price 15s.—Smith and Elder.

COINS.—Mr. S. Martin, of the Stationery Office, and C. Trübner, have published the current gold and silver coins of all countries, with *fac-similes* of the coins printed in gold and silver, price £2 2s.—Trübner and Co.

KING'S TABLES OF INTEREST, and for calculating commission, in use at the Bank of England, price £1 1s.—Bell and Daldy.

THEORY OF THE FOREIGN EXCHANGES, by George J. Goschen, M.P. 2nd edition, revised by the author. 8vo., pp. xv.—149, price 5s.—E. Wilson.

MARKS AND MONOGRAMS ON POTTERY AND PORCELAIN, in demy octavo, with nearly 1,000 woodcuts, price 12s., by W. Chaffers, F.S.A.; also, by the same author, price 3s. 6d., **HALL MARKS ON PLATE**, by which the date of the manufacture of English plate may be ascertained.—J. Davy and Sons.

CHROMOTOGRAPHY, a treatise on colours and pigments, and of their powers in painting, by George Field. New edition, improved. 8vo., pp. xviii.—424, price 8s. 6d.—Winsor and Newton.

THE UNIVERSAL DECORATOR, a complete guide to ornamental design, &c. The illustrations by William Gibbs. 4to., price 50s.—Houston.

Amongst the Parliamentary Papers recently published may be mentioned the Report on Ordnance, with Evidence and Diagrams, price 16s.; the Annual Report of the Commissioners of Patents, price 8d.; and An Appendix to the Report of the Royal Academy Commission, price 10d.

A HISTORY OF THE TRADE AND MANUFACTURES OF THE TYNE, WEAR, AND TEES, comprising the papers prepared under the auspices of a Committee of Local Industry, and other documents of a similar character, read at the second meeting, in Newcastle-on-Tyne, of the British Association for the Advancement of Science, 1863. Revised and corrected by the writers. 8vo., sd., pp. ix.—194, price 3s. 6d.—Lambert (Newcastle-on-Tyne); Spon.

COTTON TRADE; its bearing upon the prosperity of Great Britain and commerce of the American Republics, considered in connection with the system of negro slavery in the Confederate States, by George McHenry. 8vo., pp. lxxix.—292, price 10s. 6d.—Saunders and Otley.

HANDBOOK TO THE COTTON CULTIVATION IN THE MADRAS PRESIDENCY; exhibiting the principal contents of the various public records and other works connected with the subject, in a condensed and classified form, in accordance with a resolution of the Government of India, by J. Talboys Wheeler. With illustrations. Small post 8vo., pp. xii.—306, price 7s. 6d.—Virtue.

THE OIL AND COLOURMAN, AND PAINTERS' MANUAL: a London serial. Conducted by Peter Thompson, 1863. 8vo., pp. 496, price 3s. 6d.—Longman.

REED'S SHIP-OWNERS' AND SHIP-MASTERS' HANDY-BOOK, comprising tables of the proportionate rates of freight on coals, grain, &c.; the East India tonnage scales; tables of the comparative stowage of goods; corn measures of the different ports in Europe; proportionate rates of freights for Leghorn, Genoa, Trieste, and Marseilles; Lloyd's instructions for the stowage of grain cargoes at Montreal; dimensions and contracts of wine and spirit casks; Lloyd's scale of the weights of anchors, sizes of cables, &c.; value of foreign moneys in British currency, and other information useful to those engaged in maritime commerce. Second edition, revised and enlarged. Crown 8vo., sd., pp. 56, price 1s. Reed (Sunderland); C. Wilson.

TREATISE ON THE VENTILATION OF COAL MINES; together with a narrative of scenes and incidents from the life of a practical miner, by Robert Scott. 8vo., sd., pp. 71, price 1s.—Lambert (Newcastle-on-Tyne); Spon.

Forthcoming Publications.

THE BIBLE ALBUM, illustrated by the Poets, quarto, numerous engravings, printed in tints by Edmund Evans, extra cloth, gilt sides and edges, price one guinea—Ward and Lock.

AN ILLUSTRATED EDITION OF THE PRAYER-BOOK, in one vol., large octavo, pp. 700, printed in red and black on toned paper, at the Chiswick Press, price 15s. cloth, or price 31s. 6d. richly bound in morocco, adapted from Geoffrey Tory (1525), is announced by Longmans.

Proceedings of Institutions.

GLASGOW MECHANICS' INSTITUTION.—On the 27th ult. the prizes and certificates of the Society of Arts, awarded at the Examination in May last to the successful candidates from this Institution, were distributed. The chair was occupied by Professor Anderson, of the University, Chairman of the Local Board. The CHAIRMAN said the number of gentlemen who presented themselves at the Examination in May amounted to 27, to whom 34 certificates had been awarded—12 being of the first class, 9

of the second class, and 13 of the third class. Having distributed the certificates and prizes, he shortly addressed the students. It would be noticed, he said, that the certificates referred to a considerable variety of subjects, thus showing that the students gave their attention to a very extensive field of knowledge. In certain respects the results of the Examination of the present year were satisfactory, but in other aspects, perhaps, the review was not so gratifying as might have been wished. On the whole, however, they had been very successful, because almost all of the students who offered themselves for examination had passed, and the majority had done so in a very satisfactory manner. The proportion of first-class certificates which had been taken was far above the average of the whole country; but he thought it right, at the same time, to say that the candidates had not come up to their own average. The candidates of the present year had not received as high honours from the Society of Arts as those of former years. Only one book prize had been awarded, whereas, in every previous Examination of candidates of the Glasgow Mechanics' Institution, there had been awarded to them a considerable number of the money prizes given by the Society. In fact, during previous years, this Institution, he might say, had carried off the lion's share of these prizes. He wished very much indeed that the same result could have been repeated at this time, but he supposed they could not expect to be always equally successful. Those who had taken the certificates had unquestionably gone through a great amount of work in a careful and studious manner; but he would caution them, and the students generally, not to rest contented with the amount of knowledge which they had acquired, but to regard it, on the contrary, as only the starting-point for further study. Mr. MORE, President of the Institution, afterwards addressed the meeting, and referred to the arduous nature of the duties gone through by the members of the Local Board. He bore testimony to the unwearied exertions of Professor Anderson the President of the Board, in promoting the interests of the students, and proposed that a vote of thanks should be awarded him for his labours during the past year. Thanks having been cordially awarded, Professor Anderson acknowledged the compliment. BAILIE COUPER then made a few concluding remarks.

WIGAN MECHANICS' INSTITUTION.—The ninth annual report says, that looking at the gloomy aspect which the town and neighbourhood wore in consequence of the painful and yet prevailing distress, the directors were led to expect a diminution in their funds. However, they are happy to state that this has not been the case, though the library exhibits a decrease in the number of books taken out as compared with last year's return. The directors are glad to find that the attention of the working-men is gradually being withdrawn from what is mere pastime, in the shape of reading, and directed to that which is both pleasing and instructive. The news-room has about the same number of subscribers as last year. A phonographic class, on Pitman's system, has been opened for members and non-members of the Institution; the latter being charged a full fee, whilst subscribers to the Institution are admitted at half-price. At the public readings the attendance has been rather better during the year, and the pecuniary result very satisfactory. The guarantee fund against loss still remains untouched. The directors have as yet made no charge for the use of the hall for these Saturday evening's entertainments. The thanks of the members are due to those ladies and gentlemen who, by their gratuitous services, have contributed to the success of the entertainments. The income was £416 16s., and there is a small balance in favour of the Institution.

Notes.

THE ROYAL DUBLIN SOCIETY'S EXHIBITION OF IRISH MANUFACTURES in 1864 is to take place coupled with the

Fine Arts Exhibition. A guarantee deed, bearing the Society harmless, is to be prepared.

AT MR. MURRAY'S ANNUAL TRADE SALE, the trade subscribed for the following works, in the following numbers:—900 copies of Dr. Percy's "Metallurgy of Iron and Steel," 900 "Handbooks to Cathedrals," 900 "Life of Sir Joshua Reynolds," 1,000 Smiles' "George Stephenson," 4,200 Smiles' "Self-Help," and 10,000 Smiles' "Iron-workers and Tool makers."

SIX TRADESMEN OF PARIS have been fined 50 francs each, for sending bank-notes in unregistered letters through the Post-office.

AMALGAMATION OF THE ST. KATHERINE AND LONDON DOCKS.—Meetings of the proprietors of the above companies have been held, at which it was resolved to apply to parliament in the ensuing session for power to carry into effect certain arrangements for the amalgamation of the two companies.

DISCOVERY OF OLD ROMAN COINS.—A large number of Roman copper coins of very ancient date and of different reigns have been discovered in the vicinity of Old Sarum, on property belonging to Mr. John H. Campbell Wyndham, of the College, Salisbury. One jar contained no less than 218, another 159, and a third 140, the whole, together with the jars, being in a good state of preservation.

EXHIBITION OF DECORATION, GRAINING, MARBLING, AND WRITING.—The fourth annual exhibition of the Painters' Company will take place in June, 1864. Intention to exhibit should be notified forthwith to the Clerk of the Company. Specimens for exhibition will be received from residents in the United Kingdom between the 1st and 15th of May. The terms of exhibiting may be had at the Hall, between the hours of eleven and two, daily. In addition to the prizes of medals, &c., two money prizes of £5. each will be awarded for decorations; one arabesque, and one of the period of Louis Seize.

MEETINGS FOR THE ENSUING WEEK.

- MON.** ...Medical, 8½. Dr. C. H. F. Routh, "Diseases of Women and Children.—Classification of Fibrous Tumours.—Varieties, including pelvic bodies.—Intimate Structure.—Transformations, by softening, hardening, absorption, &c." Royal Geographical, 8½. 1. Communication from Mr. Finne, relative to explorations in the river district west of the White Nile. 2. Journey of Colonel Pelly on the shore of the Persian Gulf.
- TUES.** ...Ethnological, 8. 1. Rev. G. Rome Hall, "On the Aboriginal occupation of North Tynedale and Western Northumberland." 2. Account of the Weddies, or Widdos, by a Tamil Native of Ceylon.
- Civil Engineers, 8.** 1. Discussion on Mr. Morshed's paper on "Duty of the Cornish Pumping Engines."
- WED.** ...Society of Arts, 8. Sir Charles Nicholson, Bart., "New South Wales, and its Commercial Resources." British Archaeological Association, 8½. 1. Mr. E. Levison, "On Unpublished MSS. relating to Meaux Abbey." 2. Mr. H. Jenkins, "On the Roman Roads mentioned in Antonine's Itinerary, as leading to and from Colchester."
- THUR.** ...Royal, 8½.

PATENT LAW AMENDMENT ACT.

APPLICATIONS FOR PATENTS AND PROTECTION ALLOWED.

[From Gazette, November 13th, 1863.]

Dated 30th June, 1863.

1625. J. G. Jennings, Palace-road, Lambeth, and M. L. J. Lavater, Bath-street, Newgate-street.—Imp. in stoppers and lids or covers for jars, bottles, and other vessels, also in closing and fastening other articles.

Dated 3rd July, 1863.

1653. Capt. H. Broadhead, R.N., and G. Murdoch, Portsmouth.—Imp. in breech-loading ordnance, and gun carriages.

Dated 12th August, 1863.

1993. R. Wappenstein, Manchester.—A new method of preventing forgery of bankers' cheques and other documents by the use of a stamp, and a new apparatus whereby the issue of stamped documents is controlled.

- Dated 31st August, 1863.*
2151. A. V. Newton, 66, Chancery-lane—Imp. in the mode of, and apparatus to be used in, sewing by machinery. (A com.)
- Dated 3rd September, 1863.*
2177. N. Bailly, Vesoul, France—Imp. in the application of rolling friction to the axle-boxes and journals of running shafts and axletrees of machines and vehicles of all descriptions for lessening the resistance to the motion. (Partly a com.)
- Dated 24th September, 1863.*
2359. A. V. Newton, 66, Chancery-lane—Imp. in the manufacture of gunpowder and powder for blasting purposes. (A com.)
- Dated 28th September, 1863.*
2376. T. Lowe, Brighton—An improved break for railway and other carriages.
- Dated 15th October, 1863.*
2524. R. Bewley, jun., Uttoxeter, Staffordshire—Imp. in wrenches.
2528. H. W. Hart, Fleet-street—Imp. in apparatus for suspending T and other like fastenings, and articles to which they are applied.
- Dated 17th October, 1863.*
2538. S. Berrisford and W. Ainsworth, Stockport—Certain imp. in looms for weaving.
- Dated 19th October, 1863.*
2555. A. Budenberg, Manchester—An improved blasting powder. (A com.)
- Dated 20th October, 1863.*
2576. Major-General W. N. Hutchinson, Plymouth—Imp. in ordnance.
- Dated 21st October, 1863.*
2579. T. C. Clarkson, 56, Stamford-street, Blackfriars—Imp. in the manufacture of saddles and harness, and in materials for and in ornamenting the same, which improvements are applicable for parts of carriages, dress, and coverings for the head, and other articles.
2586. E. Alcan, King-street—An improved method of figuring and ornamenting cloths and other fabrics, and apparatus employed therein. (A com.)
- Dated 22nd October, 1863.*
2598. J. W. Friend, Freemantle, Southampton, and B. P. Weatherdon, Kingston-on-Thames—An improved valve and valve gear for regulating the passage or flow of fluids.
2602. J. Weems, Johnstone, Renfrew, N.B.—Imp. in machinery, apparatus, or means for drying, cleaning, and cooling grain and other vegetable products.
2603. A. Kinder, 20, Cannon-street, and J. Inglis, Ellesmere-road, Old Ford, Middlesex—Imp. in the manufacture of metallic foils, and in the apparatus to be employed therein.
2604. B. Noakes and F. J. Wood, Bermondey—Imp. in the manufacture of metallic casks, bottles, and other similar vessels, and in machinery employed therein.
- Dated 23rd October, 1863.*
2621. J. L. Jurgens, 4, Noel-street, Islington—Imp. in vessels of war.
2614. A. J. Martin, 2, Vernon-terrace, Roman-road, North Bow—An improved burner for burning petroleum, paraffin, or other hydro-carbon oils, consuming the smoke without the use of a draught chimney.
2619. F. Tolhausen, 12, Southampton-buildings, Chancery-lane—An improved mechanism for regulating the working of springs. (A com.)
- Dated 24th October, 1863.*
2630. W. Locke and J. Warrington, Kippax, near Leeds, and W. E. Carret, W. E. Marshall, and J. Telford, Leeds—Imp. in the working and mining of coal, minerals, and earthy matters, and in the machinery, apparatus, and means to be employed therein.
2634. B. Browne, 49, King William-street—Imp. in sewing machines. (A com.)
- Dated 26th October, 1863.*
2636. R. Littleboy, 2, John's-terrace, St. Leonard's-road, Bromley—Imp. in the manufacture of nosebags.
2638. F. Parker, Cambridge—Imp. in carriages.
2640. S. J. Healey, Manchester—Imp. in water gauges applicable to steam boilers and other purposes.
2642. J. Nicholas, Newton, Lancashire—Imp. in treating Canadian petroleum and other mineral oils of a similar nature.
2646. A. Blake, Newport, Monmouthshire—An improved refrigerator for cooling worts for brewing, or other liquids requiring cooling, and for improving brewers' refrigerators now in use.
- Dated 27th October, 1863.*
2648. J. Marshall, 126, Pentonville-road—Certain imp. in the expression of oil from oil-yielding substances, and in the production of oil cake and other residuary matters.
2654. J. Hutchinson and J. Hollingworth, Dobcross, Saddleworth, Yorkshire—Imp. in means or apparatus employed in weaving.
2656. R. Smith, 24, Higher Chatham-street, Manchester—Imp. in doubling and winding machines.
2658. M. W. Carr, Knoll, Blackheath, Kent—Imp. in the manufacture of wooden sleepers for railways.
- Dated 28th October, 1863.*
2660. W. Wanklyn, Albion Mills, Bury, Lancashire—Imp. in apparatus for opening and conditioning cotton and other fibrous substances.
2662. A. S. Coronel, 256, High Holborn—An improved preparation of tobacco for fumigating purposes.
2664. S. Procter, Elsecar, Yorkshire—An improved instrument for extracting corks from bottles.
2665. E. Oldfield, Adelphi Iron Works, Salford—Imp. in self-acting mules for spinning and doubling cotton and other fibrous materials.
2666. H. A. Bonneville, 24, Rue du Mont Thabor, Paris—An imp. in clasps for portemonnaies, pocket books, bags, and other like uses. (A com.)
2668. J. Cavanah and J. Cavanah, 21, Parron-street, Paddington, Liverpool—Imp. in machinery or apparatus for making bricks and tiles, applicable also for washing and drying clay.
2670. W. Nall, 1, Wharf-street, Leicester—Imp. in ornamenting glass and sheet gelatine.
2671. G. E. Donisthorpe, Leeds—Imp. in apparatus used when getting coal and other minerals.
2672. R. B. Jones, Limerick—Imp. in portable cooking apparatus.
2673. J. Kennedy, Whitehaven—Imp. in the construction of ships of war and other vessels, and in masting and rigging the same.
2674. R. A. Brooman, 166, Fleet-street—Imp. in instruments for taking astronomical and other observations. (A com.)
- Dated 29th October, 1863.*
2676. O. C. Evans, Manchester—Imp. in digging machinery.
2677. J. R. Johnson, 31, Red Lion-square—Imp. in the manufacture of lubricating compounds.
2678. J. Rawlings, Carlton-hill-east—Improved means of attaching cords to window sashes.
- Dated 30th October, 1863.*
2679. A. R. Le Mire Normandy, Odin-lodge, King's-road, Clapham-park—Imp. in the manufacture of playing cards.
2680. F. N. Glasborne, 3, Adelaide-place, London-bridge—An improved composition for coating ships' bottoms.
2681. J. Nash, 37, Princes-street, Leicester-square—An improved mattress for beds.
2683. H. Cochrane, Ormesby Iron Works, Middlesborough-on-Tees, Yorkshire—Imp. in surface condensers, also applicable to the refrigeration or cooling of fluids.
2684. W. M. Neilson, Glasgow—Imp. in taps, cocks, or valves. (A com.)
2685. W. Gadd, jun., Nottingham—Imp. in machinery or apparatus for the manufacture of bonnet and cap fronts, which imp. are also applicable to the production of ornamental effects to other trimmings for wearing apparel.
2687. M. J. Roberts, Pendarren-house, Crickhowell, Brecon—Imp. in apparatus for oiling wool.
2688. G. Rosselet, 2, Rue Sainte Appoline, Paris—Imp. in apparatus for sustaining and raising ships, applicable also as life buoys.
2689. A. Turner, Leicester, and W. E. Newton, Chancery-lane—Imp. in looms for weaving terry and cut pile fabrics, parts of which imp. are also applicable to other kinds of looms.
2691. A. Turner, Leicester—Imp. in looms for weaving.
2692. W. Verran, Penryn, Cornwall—Imp. in machinery for obtaining motive power by means of steam.
2693. H. Clow, Bland-street, Dover road—Imp. in ovens.
2694. G. F. Busbridge, East Malling Mills, Kent—Imp. in apparatus for feeding sheets of sized or unsized paper to a drying machine.
2695. J. Brigham and R. Bickerton, Berwick-on-Tweed—Imp. in reaping and mowing machines.
2696. J. H. Johnson, 47, Lincoln's-inn-fields—Imp. in the manufacture of soap. (A com.)
- Dated 31st October, 1863.*
2701. J. Rennie, Birmingham—Imp. in the manufacture of chandeliers, lamps, and other apparatus employed in distributing light.

PATENTS SEALED.

[From Gazette, November 13th, 1863.]

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| 13th November. | 1281. R. A. Brooman. |
| 1243. A. Heather and J. Redfern. | 1335. F. R. Piltz. |
| 1245. R. Fenner & W. H. Hight, | 1379. E. J. Jarry. |
| 1253. R. Bunting. | 1447. W. Clark. |
| 1254. H. J. Olding. | 1836. C. Beslay. |
| 1273. F. P. Warren. | |

PATENTS ON WHICH THE STAMP DUTY OF £50 HAS BEEN PAID.

[From Gazette, November 17th, 1863.]

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| 9th November. | 2855. W. Cope, W. G. Ward, and E. Cope. |
| 2791. W. Robertson and J. M. Hetherington. | 12th November. |
| | 2789. R. Furnival. |
| 10th November. | 14th November. |
| 2765. F. Trouve. | 2801. P. Unwin, J. Unwin, and J. U. Askham. |
| 11th November. | 2802. A. Henry. |
| 2781. W. Roberts. | |

PATENTS ON WHICH THE STAMP DUTY OF £100 HAS BEEN PAID.

[From Gazette, November 17th, 1863.]

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| 11th November. | 14th November. |
| 2706. J. Billing. | 2743. J. M. Gilbert. |
| 2798. A. V. Newton. | |